

Whipple Hill Trail Project Narrative

May 1, 2013

Whipple Hill Parcel Map-Lot Numbers and Deed Registry Information

Maps	Lot	Deed Book	Deed Page
28	60A	12823	271
28	40A	13390	102
28	39	13390	102
36	38A	13060	301
36	37B	11290	268
36	36	11618	386
36	37A	11618	386
28	34	13390	102
36	27	13390	102
36	29	13390	102
36	39	12746	374
36	38	13390	102

The Whipple Hill trail project enhances a large trail network 4.3 miles in length. The proposed improvements are in 28 locations, shown on the accompanying project plan Whipple-Hill-Trail-Improvements-NOI.pdf. The improvements fall in the following categories:

- New boardwalk replacing existing boardwalk (1 site)
- New boardwalk on existing trail (10 sites)
- New boardwalk on relocated trail (2 sites)
- New bridge over stream on existing trail (3 sites)
- Relocate existing trail (12 sites)

The boardwalks improve trail access in wet or muddy locations and help preserve wetlands. The trail relocations are intended to reduce erosion or bring the existing trail away from wetland areas. The improvements are in three areas at the Whipple Hill site:

- **Locke Pond trails** - 292 feet of boardwalk segments in different locations around the pond, a scenic location that connects with the Winchester Wright-Locke Farm site to the north. The largest continuous span of boardwalk totals 156 feet, and is on the southerly side of the pond.
- **Brook trails** - 120 feet of boardwalk segments in different locations along the brook from Locke Pond towards the southeast. Some of the boardwalk construction is in relocated trails.
- **Upland trails** - 172 feet of boardwalk segments in shorter spans covering wet upland areas, as well as some relocated trails

Approximately 1100 feet of existing trail are planned for relocation.

The boardwalks and bridges will be designed and constructed according to guidelines developed from experience with Lexington's trail systems over the last ten years. (See the diagram "Typical Boardwalk Construction" at the end of this document). All structures will be hand-built by volunteers to meet or exceed previous standards used in Lexington. They will have the minimum necessary wetland footprint and are expected to survive worst case spring flooding. Most of the structure in contact with the soil will be recycled plastic 6x6 sleepers, with pressure-treated lumber for the stringers and deck, resting on the sleepers. Cutting of nearly all lumber will occur at a saw station, where sawdust and debris from pressure-treated lumber and plastic sleepers will be captured for proper disposal. Sawdust from any drilling or cutting along the trail will also be captured. There will be no permanent impact to drainage patterns or landforms beyond the placement of the boardwalk and bridge materials themselves.

The Lexington Conservation Stewards project leaders and the Conservation Division staff plan the work days, organize the volunteers from the community, direct the work on site, coordinate the purchase and delivery of materials and donated use of tools, and provide refreshments. The work itself will be accomplished in a series of workdays, which entail an average of 100-200 volunteer labor hours per day.

Replacement and existing conditions

The 4.3 mile trail system has one short boardwalk section but no other structures other than boards laid in the trail, for example:



Locke Pond is a scenic attraction of the property; the north end of the pond is at the Lexington/Winchester town line. Looking southerly from the Winchester line:



Trails around the pond lead directly to trails to the Wright-Locke Farm property in Winchester. Currently the pond trail crosses a stream that runs between Locke Pond and other ponds over the Winchester line. There is no bridge at this crossing.

At the southerly end of the pond, the trail passes through wetlands. The trail can be muddy and difficult to pass through even in late summer. The following picture was taken August 2011:



The brook is an intermittent stream; the trail currently crosses the brook in two places.

The plan is to improve trails and protect wetlands with boardwalks; boardwalks will cover approximately 1752 square feet of trail (584 linear feet x a width of 3 feet), with an estimated footprint of approximately 136 square feet in actual contact with the ground. The proposed structures will cover less than three percent of the trail system at the property. The relocated trails (1100 linear feet) are approximately 4 percent of the trail system. The relocations will move the trail away from muddy areas.

Proposed improvements

The following sections contain summaries of proposed improvements in each of the areas: the upland area, Locke Pond area, and the brook area trails. Each section also contains a table that describes individual improvements in more detail, with a numeric key to the location on the project plan (Whipple-Hill-Trail-Improvements-NOI.pdf) The plan has annotations in green that describe the category of the proposed improvement.

Upland area

The upland area consists of nine sites. For three of the sites (211, 303, 304), the proposal is to relocate existing trail sections. The remaining sites involve installing boardwalks at existing trails that cross upland wet areas.

Site number	Structural improvements	Description
211	No structures; 120 feet of rebenching	Relocate existing trail
303	No structures; 55 feet of rebenching	Relocate existing trail
304	No structures; 120 feet of rebenching	Relocate existing trail
391	Boardwalk: Two 8 foot ramps with a 12 foot midsection	New boardwalk on existing trail
394	Boardwalk: Two 8 foot ramps with a 8 foot midsection	New boardwalk on existing trail
396	Boardwalk: Two 8 foot ramps with an 8 foot midsection	New boardwalk on existing trail
397	No structures; 75 feet of rebenching	Relocate existing trail
398	Boardwalk: Two 8 foot ramps with an 12 foot midsection	New boardwalk on existing trail
400	Boardwalk: Two 8 foot ramps with an 8 foot midsection	New boardwalk on existing trail
403	Boardwalk: Two 8 foot ramps with an 8 foot midsection	New boardwalk on existing trail
403a	Boardwalk: Two 8 foot ramps (no midsection)	New boardwalk on existing trail

Locke Pond area

The Locke Pond area improvements include:

- A new bridge at an existing trail running between Locke Pond and the Winchester ponds
- Boardwalks over existing trails in wetland areas.
- A 156 foot boardwalk section at the southerly end of the pond and leading towards the brook, forming a "T".

- Other boardwalk sections are on existing trails in wet areas around the pond.

Site number	Structural improvements	Description
376	Bridge, Two 12 foot ramps with a 24 foot midsection	New bridge on existing trail (see site photo)
375	Boardwalk: Two 8 foot ramps with a 16 foot midsection	New bridge on relocated trail (see site photo)
379	Boardwalk: Two 8 foot ramps with a 12 foot midsection	New boardwalk on existing trail
381/4/5/7	Boardwalk: Two 16 foot ramps, one 12 foot ramp, seven 16 foot midsections, 156 feet in all, making a "T"	New boardwalk on existing trail (see site photo)

Brook area

The proposals for the brook area are to move sections of the existing trail upland, away from muddy areas, build two bridges where the existing trail crosses the brook, and add boardwalks at wet locations of existing trails.

Site	Structural improvements	Description
382, 383	No structures, 175 ft of rebenching	Relocate existing trail
410, 411	No structures, 100 ft of rebenching	Relocate existing trail
412	Boardwalk: Two 8 foot ramps with an 16 foot midsection	New boardwalk on existing trail (see site photo)
414-5, 297	No structures, 300 ft of rebenching	Relocate existing trail
417	No structures, 80 ft of rebenching	Relocate existing trail
419	Bridge: Two 8 foot ramps with a 12 foot midsection	New bridge on existing trail
423	Bridge: Two 8 foot ramps with a 16 foot midsection	New bridge on existing trail (see site photo)
425	Boardwalk: Two 8 foot ramps with an 8 foot midsection	New boardwalk on existing trail
427	No structures, 60 ft of rebenching	Relocate existing trail
428	No structures, 70 ft of rebenching	Relocate existing trail
430	No structures, 120 ft of rebenching	Relocate existing trail
435	Boardwalk: Two 8 foot ramps with a 12 foot midsection	New boardwalk on existing trail

Alternatives analysis

The following are options for dealing with trails that touch wet areas at the Whipple Hill site:

- Do nothing - Leaving trails as they are will continue to degrade wetlands as trail users access wet trail areas, causing soil erosion, compaction, and widening trails.
- Close trails - Whipple Hill is a popular conservation area with many passive recreational opportunities for visitors, closing the trails here is impractical and contrary to Lexington's Open Space and Recreation Plan.

The trail relocations proposed here will in effect close short stretches of trail that go through muddy areas. The relocated trails along the Brook area follow the trace of current use trails that make loops around muddy areas.

Site photographs

Locke pond area, site 381-4-5-7 (t-shaped boardwalk section)



Locke Pond area, site 375



Locke Pond, bridge site 376



Site 412 Brook area, boardwalk



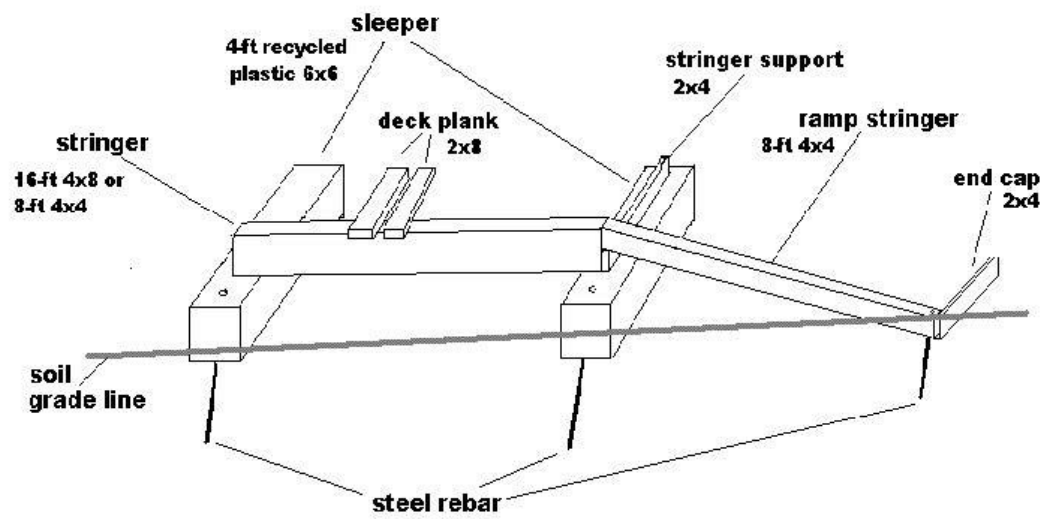
Site 419, bridge over brook



Site 423, bridge over brook



Typical Boardwalk Construction



Boardwalk End Detail